WHAT IS CLAIMED IS:

1. A multibeam exposure head comprising:

a multibeam light source which exposes a recording material by main scanning,

said multibeam light source having a first multiple beam forming light source in which a plurality of beam emitting ports are arranged parallel to each other while being spaced apart from each other by a predetermined distance, and a second multiple beam forming light source in which a plurality of beam emitting ports are arranged parallel to each other being spaced apart from each other by said predetermined distance,

said plurality of beam emitting ports in said second multiple beam forming light source being placed parallel to the parallel arrangement direction of the beam emitting ports in said first multiple beam forming light source while being spaced apart by a predetermined distance from the same, and the position of the beam emitting port at one end of said second multiple beam forming light source being shifted in the parallel direction relative to the position of the beam emitting port at the corresponding end of said first multiple beam forming light source.

2. The multibeam exposure head according to claim 1, further comprising a tilt angle changing unit which makes, by rotating said multibeam light source, a change in exposure condition from a first exposure condition in which each of first multiple beams emitted from said first multiple beam forming light source and each of second multiple beams emitted from said second multiple beam forming light source are alternatively arranged at an equal interval in a subscanning direction perpendicular to the direction of main scanning on the recording material, to a second exposure condition in which each of the first multiple beams and each of the second multiple beams are alternatively arranged at an equal interval in a subscanning direction.

3. The multibeam exposure head according to claim 1, further comprising an optical system in an optical path between said multibeam light source and the recording material, from a first beam pitch formed on the recording material through said optical system by each of the first multiple beams and the second multiple beams alternatively arranged at equal intervals in the subscanning direction under the first exposure condition, said multibeam light source being rotated by using said tilt angle changing unit

to form a desired second beam pitch on the recording material through said imaging optical system by each of the first multiple beams and the second multiple beams alternatively arranged at equal intervals in the subscanning direction under the second exposure condition.

4. The multibeam exposure head according to claim 1, wherein if the arrangement distance of said beam emitting ports is D_f; said first beam pitch is P; said second beam pitch is Q; and imaging magnification of said optical system is M, and

if a distance by which said first multiple beam forming light source and said second multiple beam forming light source are spaced apart from each other by a predetermined distance is W_f, then W_f obtained by the following equation (1) is set:

$$W_f = L \cdot \cos(\theta_a + \Phi_1)/M \qquad (1)$$

where $L = (((2 \cdot n-1) \cdot Q + P \cdot \cos(\Delta\theta))/\sin(\Delta\theta))^2 + P^2)^{1/2}$,

$\theta_a = \cos^{-1}(2 \cdot P/(D_f \cdot M))$,

$\Phi_1 = \sin^{-1}(P/((((2 \cdot n-1) \cdot Q + P \cdot \cos(\Delta\theta))/\sin(\Delta\theta))^2 + P^2)^{1/2})$,

$\Delta\theta = \cos^{-1}(2 \cdot Q/(D_f \cdot M)) - \cos^{-1}(2 \cdot P/(D_f \cdot M))$, and

n is a natural number.

5. The multibeam exposure head according to claim

1, wherein if a width by which the position of the beam emitting port of said second multiple beam forming light source is shifted in the parallel arrangement direction relative to the position of the beam emitting port of said first multiple beam forming light source is A_f, then A_f obtained by the following equation (2) is set:

$$A_f = (W_f \cdot M \cdot \sin(\theta_a) + P)/(\cos(\theta_a) \cdot M) \quad (2)$$

6. The multibeam exposure head according to claim 1, said optical system having a lens which finely adjusts imaging magnification of said optical system, said lens being provided in an optical path of the first multiple beams and the second multiple beams.

7. The multibeam exposure head according to claim 1, said multibeam light source having an optical fiber array.

8. A multibeam exposure apparatus comprising:

a multibeam exposure head including a multibeam light source which exposes a recording material by main scanning, said multibeam light source having a first multiple beam forming light source in which a plurality of beam emitting ports are arranged parallel to each other while being

spaced apart from each other by a predetermined distance, and a second multiple beam forming light source in which a plurality of beam emitting ports are arranged parallel to each other being spaced apart from each other by said predetermined distance, wherein said plurality of beam emitting ports in said second multiple beam forming light source are placed parallel to the parallel arrangement direction of the beam emitting ports in said first multiple beam forming light source while being spaced apart by a predetermined distance from the same, and the position of the beam emitting port at one end of said second multiple beam forming light source is shifted in the parallel direction relative to the position of the beam emitting port at the corresponding end of said first multiple beam forming light source; and

an outer drum capable of performing main scanning on the recording material by having the recording material fitted and rotated around its outer cylindrical surface.